

IN THE CLAIMS

1. (Currently amended) An etching method comprising:
providing a wafer having a dielectric layer and an electrode partially protruding from a top surface of the dielectric layer;
etching the dielectric layer with a chemical solution; and
prior to etching the dielectric layer, reducing the protruding portion of the electrode, wherein reducing the protruding portion includes recessing a top surface of the electrode at least 500 angstroms below the ~~top~~top surface of the dielectric layer.
2. (Original) The method of claim 1, wherein the protruding portion of the electrode is reduced sufficiently to prevent any bubbles included in the chemical solution from adhering to the electrode.
- 3-6. (Canceled)
7. (Original) The method of claim 1, wherein reducing the protruding portion comprises dry etching.
8. (Original) The method of claim 7, wherein drying etching uses an etchant selected from the group consisting of HB_4 , Cl_2 , CF_4 , C_4F_8 , C_5F_8 , SF_6 , O_2 and combinations thereof.
9. (Original) The method of claim 1, wherein reducing the protruding portion comprises wet etching.
10. (Original) The method of claim 9, wherein wet etching uses a polysilicon etchant.
- 11-41. (Canceled)
42. (New) The method of claim 1, wherein the dielectric layer includes an oxide.

43. (New) A method of preventing bubbles from adhering to a substantially cylindrical electrode having a sidewall portion and a bottom portion during a dielectric layer etching process, the method comprising:

providing a semiconductor substrate having the substantially cylindrical electrode, a first dielectric layer, and a second dielectric layer formed over the substrate, where the first dielectric layer surrounds the sidewall portion of the electrode and the second dielectric layer is formed in between the sidewall portion to cover the bottom portion of the electrode, and where an upper portion of the sidewall portion of the electrode protrudes above top surfaces of the first and second dielectric layers;

etching the electrode to recess the upper portion of the electrode below the top surfaces of the first and second dielectric layers;

thereafter, etching the first and second dielectric layers in the dielectric layer etching process to expose substantially all of the sidewall portion of the electrode.

44. (New) The method of claim 43, wherein the upper electrode is etched below the top surfaces of the first and second dielectric layers such that a recession having a width substantially equal to the width of the sidewall portion of the electrode is formed between the first and second dielectric layers.

45. (New) The method of claim 43, wherein the top surface of the first dielectric layer is located at substantially the same height above the substrate as the top surface of the second dielectric layer.

46. (New) The method claim 43, wherein the first and second dielectric layers include an oxide.